Data Submission

A component of the rich web application backplane

What is submission?

- First, serialise some data to send…
- …then send it to some end-point…
- …and get various events to track progress…
- …before receiving some data back.

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Typical uses

- Send data using HTML and VoiceXML forms:

    – Usually replaces the 'current form'.

- Send and receive data in Ajax:

    – Try not to replace current page.

Current use: HTML and VoiceXML

```
<submit
 next="log_request"
 method="post"
 namelist="name rank
    serial_number"
 fetchtimeout="100s"
 fetchaudio="audio/brahms2.wav"
/>
```

Current use: Ajax (1)

```
var req;


        function loadXMLDoc(url) {
            // native XMLHttpRequest object
            if (window.XMLHttpRequest)
            {
                req = new XMLHttpRequest();
                req.onreadystatechange = readyStateChange;
                // IE/Windows ActiveX version
            } else if (window.ActiveXObject)
                req = new ActiveXObject("Microsoft.XMLHTTP");

            if (req)
            {
                req.onreadystatechange = readyStateChange;
                req.open("GET", url, true);
                req.send();
            }
        }
```

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…Ajax (2)

- function readyStateChange() {
-           // '4' means document "loaded"
-           if (req.readyState == 4)
-           {
-             // 200 means "OK"
-             if (req.status == 200)
-             {
-               // do something here
-             } else
-             {
-             // error processing here
-             }
-           }
-         }

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XForms Submission

- Abstract layer with one element.
- Data and submission separate:
  - serialisation…validation…relevance.
- Events for start, done, and error:
  - one submission triggered by the success of another.

Submission element

```
<xf:submission
 id="sub"
 method="get"
 action=
   "http://example.com/customers"
/>
```

Submission element

```
<xf:submission
 id="sub"
 method="get"
 action=
  "file:my-data.xml"
/>
```

Submission element

```
<xf:submission
 id="sub"
 method="put"
 action=
 "mailto:john.doe@example.com?su
 bject=Results"
/>
```

Submission element

```
<xf:submission
  id="sub-get-contact-list"
  separator="&amp;"
  method="get"
  action="db://Driver=\{Microsoft Access
    Driver
    (*.mdb)\};Dbq=contacts.mdb;/tContact
    s/contact"
  replace="instance"
  instance="inst-contact-list"
/>
```

Example: RSS

What's missing?

- *At least* the following:
  - Proper mapping to a DOM API:
    - *not* XMLHttpRequest…some of the best work being done is in wrappers like Dojo, TIBET, etc.
  - More notification events:
    - 'about to serialise'…'about to validate'…etc.
  - Synchronisation of events:
    - TIBET allows you to do things when two submissions have finished.

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